CLAIMS:

1. A method for quantitative detection of biotoxins in a sample, comprising the steps of:

a) manufacturing a biological microchip comprising an ordered array of three-dimensional hydrogel elements on a solid support, obtained by a method of photo- or chemically induced polymerization and containing immobilized antibodies to various bacterial, plant or animal toxins or biotoxins, wherein an antibody to an individual biotoxin or an individual biotoxin is immobilized in each separate cell;

b) incubating the microchip in a reaction medium which comprises a sample containing biotoxins to be analyzed, for forming immune biotoxin-antibody complexes, which incubation, when necessary, is carried out under stirring conditions;

c) detecting the formed complex;

d) quantitative detection of the biotoxin being analyzed.

2. The method as claimed in claim 1, wherein the immobilized antibodies comprise antibodies selected from the group of antibodies to ricin, viscumin, staphylococcal enterotoxin B, tetanus toxin, diphtheria toxin, lethal factor of anthrax toxin.

3. The method as claimed in claim 1, wherein the immobilized biotoxins comprise biotoxins selected from the group comprising ricin, viscumin, staphylococcal enterotoxin B, tetanus toxin, diphtheria toxin, lethal factor of anthrax toxin.

4. The method as claimed in claim 1, wherein detecting the complex formed in step *c)* and subsequent quantitative detection in step *d)* are carried out in a format of direct immunoassay.

5. The method as claimed in claim 1, wherein the reaction medium in step *b)* additionally contains antibodies to a biotoxin, and the detection of the complex formed between the biotoxin immobilized on the chip and the antibody against this biotoxin in step *c)* and subsequent quantitative detection in step *d)* are carried out in the format of competitive immunoassay.

6. The method as claimed in claim 1, wherein the reaction medium in step *b)* further contains a labeled biotoxin, and detection of the complex formed between the antibody immobilized on the chip and the biotoxin in step *c)* and subsequent quantitative detection in step *d)* are carried out in the format of competitive immunoassay.

7. The method as claimed in claim 1, wherein detection the complex formed in step *c)* and subsequent quantitative detection in step *d)* are carried out in the format of sandwich-immunoassay.

8. The method as claimed in claim 1, wherein quantitative detection of the biotoxin is effected by carrying out steps *a)—c)* with known concentrations of the biotoxin being analyzed and with plotting a calibration dependence curve, from which the amount of the biotoxin being analyzed in the sample is determined.

9. The method as claimed in claim 1, wherein in step *c)* detection of the formed complex is carried out fluorimetrically, chemiluminometrically or mass-spectrometrically.